DOCUMENT RESUME

ED 323 563 CS 212 521

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TITLE A Model for Improving Writing in the Heterogeneously Grouped Classroom through Cooperative Problem-Solving.
PUB DATE Aug 90
NOTE 65p.; M.S. Practicum, Nova University.
PUB TYPE Dissertations/Theses - Practicum Papers (043)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Computer Oriented Programs; *Cooperative Learning; Creative Thinking; Critical Thinking; Grade 12; Heterogeneous Grouping; High Schools; *Problem Solving; *Skill Development; *Writing Attitudes; *Writing Improvement; Writing Instruction; Writing Skills
IDENTIFIERS Florida

ABSTRACT

A practicum incorporating cooperative problem-solving and cooperative process writing was developed to improve attitudes toward writing and to improve writing skills. The participants, 28 heterogeneously grouped grade 12 students, worked in cooperative learning groups throughout a summer session to develop their writing and their problem-solving skills. Pre/posttests on problem solving were administered to the students as well as pre/post writing assignments. Results revealed the success of the program: (1) 75% of the target group improved their problem-solving ability and 29% improved their scores by 25%; (2) all the participants improved their writing ability and 32% improved their writing skills by 20%; and (3) based upon comparison of questionnaires, checklists, journals, and logs written during the semester, 80% showed at least a 30% percent improvement in attitude toward writing and school. (Thirty-six references and six appendixes containing questionnaires and pre/posttest results are attached.) (KEH)

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A MODEL FOR IMPROVING WRITING IN THE HETEROGENEOUSLY GROUPED CLASSROOM THROUGH COOPERATIVE PROBLEM-SOLVING

by

Nancy Johnson

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A Practicum Report

Submitted to the Faculty of the Center for the Advancement of Education, Nova University, in partial fulfillment of the requirements for the degree of Master of Science.

The abstract of this report may be placed in a National Database System for reference.

August/1990

CS212521

Abstract

A Model for Improving Writing in the Heterogeneously Grouped Classroom.
Johnson, Nancy, 1990: Practicum Report, Nova University,
The Center for the Advancement of Education.
Descriptors: Secondary Education/ Cooperative Learning/ Heterogeneous Grouping/ Writing/ Problem-Solving/ Critical Thinking/ Creative Thinking/ Process Writing/ Reflective Thinking/

Cooperative problem-solving, cooperative process writing, and techniques to improve attitudes toward writing and school were implemented to improve writing skills in the secondary heterogeneously grouped classroom. A target group of 28 grade 12 students attending summer school participated in this program. A problem-solving pre-test (Whimbey and Lochhead,1986) was administered to the target group and compared to a post-test. A pre-writing assignment and post-writing assignment were completed and compared. Students worked in cooperative learning groups throughout the session to develop their writing and their problem-solving skills. Increased achievement in writing and problem-solving skills was revealed. Areas of the affective domain, attitudes and social-interaction, increased also.

Authorship Statement

I hereby testify that this paper and the work it reports are entirely my own. When it has been necessary to draw from the work of others, published or unpublished, I have acknowledged such work in accordance with accepted scholarly and editorial practice. I give this testimony freely, out of respect for the scholarship of other professionals in the field and in the hope that my own work, presented here, will earn similar respect.

Signed:_____

Table of Contents

		Page
Title Page		i
Abstract		ii
Authorship Statement		iii
Observer's Verification		iv
Table of Contents		vi
Chapters		
I.	Purpose	1
II.	Research and Solution Strategy	14
III.	Method	25
IV.	Results	38
V.	Recommendations	43
Reference List		45
Appendices		
Appendix A:	Entry Questionnaire	48
Appendix B:	Checklist	50
Appendix C:	Problem	52
Appendix D:	Exit Questionnaire	54
Appendix E:	Letter to Parents	56
Appendix F:	Pre/Post-Test Results	58

CHAPTER I

Purpose

Background

This secondary school opened in 1977 near a major central Florida city. The facility is located in an unincorporated area surrounded by five communities. Since the opening, additional classroom space has been added. The first phase added business and vocational facilities. The second phase in 1988 expanded class-room space, added a cafeteria, and added an auditorium. This secondary school now has a student capacity of 2,469 (Annual Report, 1988-89).

This school's district is comprised of families whose income and educational backgrounds are higher than the national average. Over 35 percent of the students' parents hold college degrees. A total of 60 percent of the students' parents have degrees or some college background (Accreditation Narratives, 1987). The socio-economic backgrounds of the families in the district are also high. The income of over 50 percent of the families in the area exceeds $35,000 per year. 79 percent of the families own their own homes (Accreditation Narratives, 1987).

In the school, ability grouping is used in scheduling classes. Academic classes are structured for basic skills students, general students, and advanced students. Advanced placement classes and dual enrollment classes are also available. Classes are scheduled for exceptional students. Exceptionalities include gifted students, learning disabled students (SLD), profoundly mentally handicapped students (PMH), emotionally handicapped students (EH), and educably mentally handicapped students (EMH). Also included in the curriculum are classes of English for Speakers of Other Languages (ESOL) and a class for at-risk students (Annual Report, 1988-89).

Placement/staffing of students in various programs is accomplished through input from school psychologists, administrators, guidance counselors, teachers, and parents. The needs and nature of the student serve as criteria for placement/staffing. Articulation is conducted with other schools in the community to facilitate continuity in curriculum.

Summer school enrollments for 1988 and 1989 topped 1,000 students. Ability grouping is not used in scheduling classes for the summer term. Teachers are given ability levels of students, but any or all

abilities may be registered in the same course for credit at a particular level. It is also possible to have exceptional students enrolled in a summer school classroom. Summer classes may be taken by students who wish to accelerate their learning. Others attend summer school to remediate and make-up a credit that was lost due to unexcused absences or unsatisfactory class work during the regular term. Some students attend the summer session to replace a grade with a higher one in order to increase their grade point average.

The regular school day is from 7:30 a.m. to 2:25 p.m. During this session, school days are broken into six periods of 60 minutes each. There are five minutes between classes and a 30 minute lunch period.

During summer school, days are six and one quarter hours in length. There are two breaks of seven minutes each. Six weeks of this schedule allows a student to earn one full credit. Classroom time can be broken into blocks and used at the teacher's discretion.

In an annual survey, responded to by parents, teachers and students, 88 percent of the students indicated their academic experience was good. Almost 80 percent of the 450 parents randomly selected indicated their satisfaction with the instructional

program; however, there was some concern voiced about "losing" the average student. More counseling was suggested (Annual Report, 1988-89).

The administration of the school consists of a principal, five assistant principals, one administrative assistant to the principal, and a full-time dean of students. The guidance department has six full-time guidance counselors and two occupational specialists. The faculty's educational experience ranges from bachelor degrees (47 percent) to specialist degrees (six percent). The remaining 47 percent of the faculty hold master degrees (Annual Report, 1988-89).

Student performance on standardized tests has shown a decline since 1987. As the number of students taking the Secondary Skills Aptitude Test (SSAT II) has increased, the communications scores have decreased. In 1987, 92 percent of the students taking the SSAT II passed. In 1989, this percentage dropped to 89 percent. The passing rate for the mathematics section of the test remained the same (86 percent) in 1987 and 1989. The passing rate on the mathematics portion of the test dropped to 81 percent in 1988.

Scores on the Scholastic Aptitude Test (SAT) dropped from 437 on the verbal portion in 1987 to 429 in

1989. The scores on the mathematics portion of the SAT dropped from 487 in 1987 to 478 in 1989. Comparable drops were also evident in the results of the Pre-Scholastic Aptitude Test (PSAT) (Annual Report, 1987-88 and 1988-89).

Enrichment activities within this secondary school are provided to students in a number of ways. A volunteer group provides guest speakers and clerical assistance. Extra-curricular activities are available for the students throughout the year. Field trips, guest speakers, and the media specialists provide enrichment. Sports programs are available for both fitness and competition. Student publications, band, chorus, and student clubs and organizations are available to the student body.

A local school advisory committee gives input from the parents and the community. A strong Parent, Teacher, Student Association (PTSA) exists. The PTSA sponsors honor breakfasts, department breakfasts for teachers, and provides a scholarship fund for teachers. In 1988-89 membership in this organization was 1,113 (Annual Report, 1988-89). Currently, one of the school's students has been elected to the National Board

of PTA. This student is one of only three students in the United States to be elected (Thornton, 1990).

In 1988-89, nine students were named National Merit Commended Students, and four became finalists. One senior was appointed to the United States Military Academy at West Point. Twenty-one students were named Florida Academic Scholars. Awards were won in other academic and extra-curricular areas.

This writer has a Bachelor of Arts in English and is certified to teach in grades 6-12. The teaching assignment for the school year 1989-90 was skills and advanced grade 12 English. This writer has been teaching at this school for six years and has taught summer school for the past five years. Additional responsibilities, include coaching an athletic team and co-sponsoring the Junior Class.

There are 26 teachers in the Language Arts Department. Among these members are the department head and a reading resource specialist. The department offers English 9-12 for basic, general, and advanced level students; humanities; drama; speech; creative writing; dual enrollment; advanced placement 12; and courses for the gifted.

Academic freedom is present at this school. Innovation and creativity are encouraged. If the district and state curriculum are met, a teacher is permitted to use methods and strategies of choice.

Problem Statement

Student performance on standardized tests has shown a decline since 1987. As the number of students taking the SSAT II has increased, the communications scores have decreased. In 1987, 92 percent of the students taking the SSAT II passed. In 1989, this percentage dropped to 89 percent. The passing rate for the mathematics section of the test remained the same (86 percent) in 1987 and 1989. The passing rate on the mathematics portion of the test dropped to 81 percent in 1988.

Scores on the SAT dropped from 437 on the verbal portion in 1987 to 429 in 1989. The scores on the mathematics portion of the SAT dropped from 487 in 1987 to 478 in 1989. Comparable drops were also evident in the results of the PSAT (Annual Report, 1987-88 and 1988-89). The steady drop in scores on the verbal portion of the SAT demonstrated the need for more critical thinking skills and problem-solving skills to be taught.

Approximately 27 percent of the students, according to this writer's observations of grade 12 students, are able to use critical thinking skills during writing activities. This percentage should be 100 percent. In department meetings, workshops, and discussions with other teachers and administrators, the lack of critical thinking skills has been cited as a reducer of effective writing. At a department meeting held in September 1989, the reading resource teacher emphasized the need to teach critical thinking skills. A workshop to assist teachers in developing classroom strategies was offered (Swaggerty, 1987).

The lack of critical thinking skills is not unique to this school's students. Worsham and Stockton (1986) point out that an earlier study noted only 40 percent of high school graduates were able to demonstrate higher thinking skills. Too much of what is being done in the classroom does not promote critical thinking. Goodlad (1983) notes that one percent of teacher-talk requires anything more than recall. Only 25 percent of 17 year olds can write an adequate analytical paper (Anrig and Lapointer, 1989).

Students are stifled from creative approaches to problem solving by being required to work alone (Golub

and Reid, 1989). According to Youngblood (1985), students need to be able to make connections between their own lives and what is studied. An assistant principal at this school stated,

> The lack of thinking skills in our students is bringing down test scores as well as handicapping them in the real world. It is imperative that teachers emphasize these skills in the classroom (Sutton, 1989).

The trend toward an emphasis on thinking skills was evident in 1986 when 90 manuscripts were submitted to the National Council Teachers of English for publication (Golub, 1986). It is impossible to teach everything. Students must be taught to question. The teacher is "an intellectual librarian" (Wiggins, 1989:57).

Critical thinking is primarily considered as evaluation of information and material. Creative thinking is primarily thought of as generating information or material. These two types of thinking are not on a continuum, but may be used individually, together, or in any order. Ennis (1985) says that critical thinking is reasonable and reflective. He also says that thinking's focus is on deciding what to believe or do. Creative thinking, according to Perkins (1984), tends to lead to creative results. The

correlation between these two definitions easily leads to using both types of thinking as a single dimension.

Writing is a means of communication. It may be a personal letter or note to a friend. It may be a creative product for the writer's own enjoyment, or it may be an expository essay. In other instances, the communication may be to argue a point or to persuade another to accept the writer's point of view. Writing can be used to explain a process, or it may be used to express personal thoughts. Writing does need to be logical, clear, and directed to a specific audience.

In interviews conducted with a sampling of 36 teachers from various disciplines in the school, 24 indicated a dissatisfaction with the students critical thinking and problem-solving ability; nine were somewhat satisfied, and three were satisfied. The same sampling was asked if there were evidence of critical thinking and problem-solving skills in the student writing submitted to them. Nineteen responded most of the time; 12 responded sometimes; and six responded seldom. When these teachers were asked if they felt that more critical thinking skills should be used by students in their writing, 100 percent responded, yes.

Throughout the regular school year, students are grouped according to ability level. In the summer school setting, students are grouped heterogeneously. Levels of students including gifted, honors, general, skills, SLD, and EH may be in one classroom. Students who are accelerating and students who have failed a class may also be in the same classroom. The number of students assigned to a summer class can be anywhere from fifteen to forty, whereas in the regular English classroom, a limit is placed on the number of assigned students by the Writing Enhancement Program.

Teaching critical and creative thinking skills, while improving writing is the challenge which faces an English teacher. This problem is compounded by heterogeneous grouping, and at times, by the inclusion of two or more grade levels in a summer school classroom. However, the block of time which is allotted for the summer school day provides opportunity for innovative use of the six and one quarter hours.

Another important factor is attendance. Students may not miss an entire day at any time during the summer session. If a student misses, even one minute of time, that time must be made up minute for minute. The policy of making up time also helps to discourage tardies.

Lack of absentees and tardies lends itself to greater continuity in the classroom.

Outcome Objectives

The implementation of this Practicum is expected to take place during the 14-week period of May through July including the summer school session. This time will be spent in producing materials to be used in the implementation; implementation; pre-testing and pre-evaluation of the students to determine thinking skill ability, writing ability, and attitude toward writing; actual work to meet the objectives; and post-testing and post-evaluation.

The following objectives are expected to be met in this writer's secondary summer school English class:

1. After six weeks of problem-solving practice, 100 percent of the target group of secondary English students will improve their problem-solving skills by 25 percent as measured by the Whimbey Analytical Skills Inventory (WASI) (Whimbey and Lochhead, 1986).

2. After six weeks of writing practice, 100 percent of the target group of secondary English students will improve their writing quality as evidenced by self, peer, and teacher evaluation using logs, records, checklists, and writing evaluation sheets.

3. Over the six-week period, 100 percent of the target group of secondary English students will demonstrate a 30 percent improvement in attitude toward writing and school as measured by differences in students' and parents' questionnaires. Logs and checklists will be used periodically to measure improvement.

Objective number one will measure skills in the cognitive domain. Objective number two will measure both cognitive and affective skills since the students will be evaluating each other and themselves, as well as being graded by the instructor. Objective number three will measure the affective domain of the target group.

CHAPTER II

Research and Solution Strategy

Research into the teaching of and the improvement of thinking skills has been conducted by a number of people. As early as 1920, authorities including Parker (Devine, 1987) offered suggestions for teachers to improve the thinking skills of their students.

A problem noted by Sternberg (1985) is that too often critical thinking skills are taught and students are expected to have "right" answers. Many times what is taught in the classroom has no bearing on the real world. Whimbey (1986) states that working together, thinking aloud, learning from each other, and reading how experienced problem solvers approach the same problems are effective. His directions consist of using a listener and a problem solver. The listener is used as a facilitator to ask questions and direct the problem solver. The listener does not enter personal suggestions.

Another authority suggests that teachers use questioning techniques based on Bloom's Taxonomy to develop higher order thinking. Using the taxonomy in the classroom is a way to promote class interaction and discussion. Moving students from the

knowledge-comprehension-application level to the analysis-synthesis-evaluation level should be the goal of the classroom teacher (DeBruyn, 1989). The teacher needs to shift classroom emphasis to mental processing with adequate feed-back of the processing (Whimbey, 1984).

Worsham and Stockton (1986) state that the best method of teaching thinking skills is the inclusion process. The process is used to complement the knowledge-based curriculum. These authors also emphasize the need to use pairs or groups in the process.

Published articles in professional English and writing journals contend that critical thinking skills must be taught in the English classroom. Most of these articles focus on analysis of literature. The authors' suggestions all seem aimed at individual students working alone. Goodlad (1983) notes that higher level skills can flourish in a classroom where students can write to solve problems in their own lives and discover what they have to say.

In a meta-analysis of studies conducted in the area of cooperative, competitive, and individualistic learning situations, cooperative learning experiences

tend to promote the highest achievement (Johnson, et al, 1981). Cooperative learning promotes the higher reasoning strategies needed for increasing higher thinking skills (Johnson, Johnson, and Holubec, 1986). However, other authors note that just because a lesson is taught using cooperative skills does not mean it is valuable (Sapon-Shevin and Schmiedewind, 1989-90).

Kagan (1989-90) states that over 20 published research studies document that cooperative learning lends itself to better interpersonal relations among students. Johnson, Johnson, and Holubec (1986) note that the exchanges among students who are cooperatively grouped and who are of different achievement levels enrich the learning experiences of all involved. Controversies may erupt, but if managed properly, contribute greatly to the learning process. The discussion process used in the cooperative groups is more effective on learning than are individualistic and competitive discussions. Johnson, Johnson, and Holubec (1986) and Slavin (1989-90) agree that student self-esteem rises and liking for the subject matter increases when cooperative learning is used.

A debate does exist between the noted authorities in the field of cooperative learning. These authorities

disagree as to the specific conditions which produce positive effects. The Johnsons and Slavin agree that cooperative learning is beneficial, but they disagree on what constitutes proper research (Slavin, 1989-90).

There is evidence that cooperative learning is effective in grades 2-9, but there is little evidence as to its effectiveness in grades 10-12. Also being debated is the appropriateness of teaching higher-order skills through cooperative learning. Although Stevens, as cited by Slavin (1989-90), reports strong effects on thinking skills taught in social studies. Studies by Sharan and Sharan (1989-90), conducted over a period of 12 years, demonstrate a higher level of achievement in students who are taught in cooperative classrooms as opposed to the achievement level of those taught using whole-class instruction. These studies further indicate that students who experience Group Investigation do better on tests assessing their higher level thinking skills than do their peers in whole-class instruction.

Group Investigation according to Sharan and Sharan (1989-90) is effective for encouraging and guiding students. Students can achieve more as a group by communicating and carrying out investigations than they can as individuals. The final results demonstrate the

group's work and reflect the individuality of the student. Social interaction is promoted along with mutual cooperation and assistance. Equal frequency of participation by all ethnic groups is also apparent.

Group Investigation progresses over the course of six consecutive stages. The scope of the topic determines the length of the process. According to Sharan and Sharan (1989-90), the six stages are the following:

1. identifying the topic and organizing the students into groups;
2. planning the investigation in groups;
3. carrying out the investigation;
4. preparing the final report;
5. presenting the final report; and
6. evaluation.

Much has been written about the most effective way to teach writing. Most authorities use the steps of pre-writing, drafting, revising, editing, rewriting, and sharing in the process. This process does not have to be linear. Methods of evaluation may vary from self-evaluation to peer evaluation to teacher evaluation. Authors, including Murray and Graves (Renner, 1986) encourage teachers to use the writing

process approach. These authors suggest that the teacher encourage the thinking of the students rather than marking errors. Students are coached and encouraged by the teacher and their peers.

Group instruction in writing has also been explored. Hillocks (1986) suggests reducing teacher lecture and teacher-led discussions with the entire class. With no fear of large group intimidation, skills improve and social interaction flourishes.

Some research has been done on writing and on critical thinking skills. For instance, in her book, Flowers (1981) suggests six steps in problem-solving for writers. She lists the following:

1. define the key issue;
2. put the problem in perspective;
3. make the definition more operational;
4. explore the parts of the problem;
5. generate alternative solutions; and
6. come to a well-supported conclusion.

These steps are addressed on an individual basis. Later, in her work, Flower addresses creative thinking using some cooperative strategies.

Allen (1986) uses collaborative learning to enhance his students' thinking skills in the study of

literature. He places his students into groups and begins with oral collaboration. Allen feels this accomplishes the critical analysis of literary texts; develops interpretations of literary texts; justifies interpretations with logic and textual evidence; and composes oral and written explanations.

Videocassettes and films are available to use in the improvement of critical thinking skills. The district provides a list of available material which the individual teacher may check these out through the school media center. Material in the district catalog has been previewed by district teachers before purchase.

One film listed in the district catalog for use at the secondary level demonstrates approaches to thinking skills. Another video, shows examples of creative thinking used by three different people (Media Catalog, 1989). Both of these films are recommended for junior high, secondary, and junior college levels.

Software is available from a number of companies to improve writing skills. One program ("How to Write," 1989) provides reproducible worksheets and can be used with the Apple II family. It provides an interactive approach to filling out forms and applications needed in the everyday world.

A videocassette and filmstrip which use non-linear methods of writing (Higgins, 1989) help introduce the student to right brain utilization. These productions have students analyze works of art using the methods suggested and provide encouragement. The techniques introduced can continue to be practiced in the classroom.

One program for writing provides software, activity books, and a guide. This software is compatible with the Apple II family or IBM. It is divided into four major sections and takes the writer through an entire writing process. This software allows students to bring previous planning to the screen while they write. It provides evaluation of their work. Other features permit the teacher to create custom pre-writing activities. Another option allows for the checking of misspelled words, the use of passive voice, and for transitions. The program will load ASCII files from other ProDOS word processors ("Success With Writing," 1989).

The district provides software to schools through the MECC (1989-90) Program. Membership by the district in this plan allows the duplication of materials purchased through the plan. One program available for

writing improvement actually uses other word processing programs to help diagnosis common writing problems. It can be used with the Apple family.

MECC also has a program to enhance thinking skills. This program mirrors the real world of research. Students may work individually or cooperatively to develop thinking skills as they go through the survey process. This program is new and is not available in the district ("Instant Survey," 1989-90).

Another interesting program for problem-solving uses the Apple II computer family. This software utilizes mazes in the application of rules of logic. Reproducible worksheets are provided for the teacher to use in the introduction of logic ("What's My Logic?," 1989).

There are numerous programs available on the market which have been reviewed and are considered educationally sound. Proper hardware must be available to the teacher so that utilization of the programs can occur. Most programs available are compatible with the Apple family. Some are IBM compatible. Although studies have been done and benefits of using cooperative learning in writing have been shown, relatively few studies have been done at the secondary level combining

thinking skills, writing, and cooperative learning. One study was conducted by Sharan and Sharan (1989-90) in grade ten. The study focused on higher order thinking skills in a social studies class, but there is a need for additional research at the secondary level.

The work of Johnson, Johnson, and Holubec, Slavin, Flowers, and especially that of Sharan and Sharan in Group Investigation, seems to lend itself to the problem of improving writing through higher level thinking. Group work or cooperative learning promotes interdependence, individual accountability, social skills, and higher thought processes (McGinn, 1990). The type of learning task that students undertake does not matter. Students involved in cooperative learning generally achieve more than those in whole-class instruction according to Sharan and Sharan (1989-90). The Group Investigation process (Sharan and Sharan, 1989-90) appears to have the elements needed to incorporate real-world situations as suggested by the mentor (Sutton, 1989) in the teaching of critical thinking skills to improve writing. For these reasons, cooperative learning of problem-solving and writing will be incorporated into the heterogeneously grouped secondary summer school English classroom to improve

writing skills, to improve thinking skills and to improve interpersonal relationships and attitudes.

Incorporation of technology will be limited due to the financial aspect and availability of equipment. Films from the district will be utilized. Availability of films or videocassettes from the district and reserving the equipment at the school are relatively easy, and definitely will be incorporated into the classroom setting.

The use of computer hardware and software presents some concern. The amount of hardware available for use is inadequate for the number of students that the school serves. Following consultation with the mentor, this writer is assured that computer hardware will be located within the school and be available for use with the target group. Software will be ordered from the district. If possible, other programs will be purchased as monies become available.

CHAPTER III

Method

The implementation of this project took 14 weeks. This instructor used the first seven weeks of the implementation period to produce materials. These materials included the development of packets to be used by groups in the completion of assignments; the development of surveys and questionnaires for gathering data from parents and students; the development of appropriate pre-evaluation and post-evaluation tools for writing; the development of appropriate evaluation tools and checklists to be used during the course of summer school for weekly evaluations; the development of real-life problems to be used by the target group, and the development of other materials to be used by the students.

The questionnaires developed were generic in nature, and although two questionnaires were constructed, one for pre-evaluation and one for post-evaluation, the questionnaires were formulated so that parents, students, or others familiar with the target subject could utilize the same questionnaire. Advance preparation of materials was important to

provide proper and ample resources for use during the practicum.

Assistance and resources were provided in several manners. The administration of this school was of great assistance in allowing this writer academic freedom to pursue this project. The mentor provided valuable support throughout the project and access to the computer laboratory when it was needed. The district coordinator for software was helpful when receipt of software was jeopardized. This school's media specialist readily acquiesced to allowing student material to be displayed in a prominent place in the center. Support from other staff members within this school and district were also of assistance. Few projects can be successful without the cooperation of many.

Since the schoolday was six and one quarter hours long, one day in the classroom was equivalent to six classes, and one week was equivalent to approximately three and two-thirds weeks in the regular term. Therefore, the implementation period in the summer session was the equivalent of 22 weeks of regular class. The state acknowledges that the time spent in the summer school classroom is equivalent to the regular school

year of 180 days. The strategy was implemented according to the following plan.

Six weeks were spent working with the target group of 28 heterogeneously grouped grade 12 students, 16 females and 12 males. This writer kept a journal and observation notes of activities. The role of this writer was as instructor, facilitator of discussion and group activity using the methods of Johnson, Johnson, and Holubec (1986), Sharan and Sharan (1989-90), Whimbey (1986), and DeBruyn (1989).

Week # 1

The target group of 28 grade 12 heterogeneously grouped English students were given a questionnaire (see Appendix A) concerning their feelings toward writing and school. This questionnaire was distributed immediately to the students to gather data. The same questionnaire was sent to the parents for their input.

Students were also given a topic for a pre-writing assignment for teacher and peer evaluation. Little instruction was given. Students were expected to write using the knowledge that was possessed.

Writing was evaluated using prepared forms. Results of these evaluations were shared with the students, but only a completion grade was given for this

assignment. By receiving completion grades, the students were rewarded for effort, but received no pressure to attain a letter grade. This allowed students to feel more comfortable in this situation.

A pre-test of problem-solving skills was administered. Following completion of the test, a teacher-led discussion of the correct answers and procedures for reaching these answers was held. Student in-put and problems encountered during the exercise were discussed. Allowing students to share their unique methods for problem-solving was encouraged.

A video (Media Catalog, 1989) was shown that demonstrated brainstorming and problem-solving being done by students. An object, an eyebrow comb, was passed to the students, and brainstorming was practiced by the entire class. Those who recognized the object passed their turn while the others brainstormed.

Interest surveys were completed by the students, and a learning style survey was conducted for use in setting-up cooperative-learning groups. The class was divided into eight small groups of two, three, or four students. Groups were mixed according to learning styles and academic ability. Each group designated specific persons for the specific tasks of recording and

of traveling to other groups when needed. These tasks and the person selected to do them changed as different needs arose.

Icebreaker activities were given to the groups. As each group worked, this instructor moved among the groups observing, reinforcing positive actions, and offering suggestions to facilitate group work, but never offering solutions. Discussion followed with this teacher as a facilitator.

Names were selected by the individual groups. Folders and boxes to store materials were decorated and set up by each group. Creativity was encouraged, and groups shared the meaning of their name selections with the other groups through a group spokesperson.

Specific tasks were carried out or taught each day. A checklist (see Appendix B) was completed by each group to keep a record of the daily group activities and individual participation. Checklists were kept throughout the session along with a learning log of individual thoughts and responses. Literature was taught each day in the class.

Another activity that continued during the session was vocabulary development using group methods. Students used the vocabulary workbook (Shostak, 1988) to

complete exercises. The following day, a teacher-made test of approximately 50 items, antonyms, synonyms, completion, and sometimes analogies, was administered. Students worked in their groups and received a group grade for the test.

At first, the students were filled with disbelief that this writer would allow them to "cheat". After some discussion, they realized that learning the words and expanding their vocabulary was the objective, not the grade. Once they realized this fact, they became comfortable with their "cheating". Group interaction and consensus in problem-solving became important to the groups when completing exercises and being tested on vocabulary. Interestingly though, not all groups made 100 per cent on every test.

Week #2

Due to the failure of some software to arrive on time, the groups worked on logic problems from a packet prepared by the teacher. Students used brainstorming and consensus to solve problems. The group recorded their activities in a journal.

The groups continued solving problems of real-world situations developed by the teacher (see Appendix C). The students, using brainstorming, reached a group

consensus and rough drafted an answer to the problem. Groups shared answers in class discussions. The class then decided by consensus which of the groups had the best answer. The group chosen wrote their answer and displayed it in the classroom.

During this week, groups wrote riddles in the Anglo-Saxon tradition using alliteration and kennings, metaphorical phrases used instead of nouns. These riddles were read aloud by the teacher, and the groups competed for the honor of answering the most and stumping the other groups. The gaily decorated riddles were displayed along with other class materials in the media center.

A formative evaluation using input from learning logs, checklists, teacher observation, and student input led to group adjustments during this week. Problems were discussed with the mentor. One group member felt uncomfortable within the group, and it was necessary to switch group members. Another group of two were moved with another pair to form a group of four. This second move was made to ensure that interaction with other learning styles and abilities would take place. Group vocabulary development, checklists, and learning logs continued.

Week #3

Students continued problem-solving. Each group created and wrote real-world problems in the form of a letter to an advice columnist. These problems were distributed to other groups for solving using the techniques learned. Students wrote answers to the problems using brainstorming, rough drafting, and peer editing. Although graphic programs were available to produce artwork for their answers, students chose to be creative and use art materials that were available. Completed works of all groups were displayed. Other classes were invited to view the displays.

Individual descriptive writing was completed. Peer evaluation was made of the rough draft pointing out positive images and correct construction with some ideas for improvement. The paper was rewritten using peer suggestions,and then teacher evaluation was completed, and a grade was awarded. Individual discussion with the student was completed.

Another assignment used during this week was writing a play using software ("Showtime," 1989-90). This program allowed the groups to choose three characters. The characters were compiled from the heads, bodies, and legs available in the graphic portion

of the program. Students were able to name their theatre, title their play, give stage directions to the characters, add music, produce dialogue, and rehearse. The group members worked cooperatively on this project.

When the plays were completed, each group presented its play using a video display terminal (VDT). This piece of equipment allowed images on the computer screen to be projected on a board, wall, or movie screen. Groups read the script and presented the play as the action was projected. After viewing all the plays, a decision by consensus of the class was reached as to which play was the best. An added bonus, since an audience always adds interest, was the observation by a recently hired teacher. The mentor suggested that the teacher observe this group. Group checklists, learning logs, and vocabulary development continued.

Week #4

Groups began investigation of a problem for research that was of interest to them. This was a written assignment as well as an assignment for an oral presentation using visual aids. Each topic had to be teacher-approved. A trip to the school library allowed the students to explore and decide upon a problem for investigation.

In the library, it was necessary for this instructor to assist some groups in topic selection. Some individual group members needed assistance finding materials. This instructor, with added assistance from a very capable media specialist, was able to direct students to the proper areas and materials. Also, it was necessary to move about the groups to observe whether they remained on task and were sharing equally in the work.

Another trip to the school library allowed time for note-taking, analysis, and synthesis of material discovered. Groups decided upon other material that would be needed for their research, and group plans were made.

Trips to other libraries were encouraged. All of the groups went to nearby university and college libraries and public libraries. Class time was spent in group writing, preparing the final report, and presenting the report.

Final reports were printed and accompanied by a short summary. The students created a cover for their reports. Each group shared the information in their report with the class, and each member of the group participated in the group presentation.

Creativity in presentation was encouraged. Some groups presented original videos; others had posters and original artwork. Group checklists, learning logs, and vocabulary development continued.

Week #5

Cooperative groups wrote a short story. Each student was given a list to be filled-in with information acquired during a teacher-led forty minute walk. This list asked for a description of a person, an animal, a plant, a vehicle, a metal object, a rock, the sky, and any unusual sight. Groups walked together and exchanged information. Upon return to the classroom, groups met and from the lists selected words that were incorporated into a story. The story was their creation. Some stories were fantasy; others were whimsical, and one was a story of the school told from the viewpoint of a hawk (the school's mascot). Real-life stories based on actual student experiences were not used.

Groups developed, edited, revised, and wrote the stories using computers. Covers for the stories were created, laminated, and attached to the story. The stories were shared with the class through group presentation. Again, with the assistance of the media

specialist, stories were displayed in a prominent place in the media center. Group checklists, learning logs, and vocabulary development continued.

Week #6

The use of checklists, learning logs, and vocabulary development continued through this week. Questionnaires (see Appendix D) were sent to parents for comparison with earlier questionnaires. The same post-survey questionnaire was completed by the target group to ascertain the improvement in attitude. A post-test of problem-solving was given and the results compared with the pre-test. A post-writing assignment was given for comparison with the pre-writing evaluations. The final test for the course was an essay test of short answer essay and a problem-solving essay. A letter (see Appendix E) was sent to parents with the student's grade at the end of the session. This letter was not sent until the last day so as not to skew the questionnaire results.

Mid-course corrections were made to provide for individual differences and to ensure adequate interaction among students. Constant comparisons of pre-evaluation instruments were made with daily and weekly evaluation instruments. When lack of progress

was shown, reevaluation of the teaching methods, evaluation methods, and materials being used were made. During the session, student input on surveys and questionnaires; in journals; on checklists; and in logs was highly valued as a means of monitoring individual student progress as well as group progress.

Chapter IV

Results

One aspect of the teaching methods that came to this instructor's attention was that active learning reinforced literary material. Each day during implementation, literature was taught through active group participation and/or teacher lecture. An example of group participation was the assigning of a Romantic poet and Romantic work to each group for explication and oral presentation.

On the final test, it was noted that 16 students missed the same question. When the test results were discussed, the reason given for missing the question was that it had been taught through lecture and had "bored" the students. Teacher reading of poetry and lecture was not as effective as active learning. The class agreed that actively working as a group helped them to understand and retain the material.

Evaluation of objective one was based on the pre-test and post-test results of the WASI (Whimbey, 1986). Each student's pre-test and post-test scores were compared (see Appendix F). It was anticipated that 100 percent of the students would raise their pre-test

scores by 25 percent. The goal of this objective was to increase the student's problem-solving ability. Although this objective was not achieved, only 29 percent improved their scores by 25 percent, 75 percent of the target group did improve their scores. An improvement in the scores does indicate that the program was successful even though it did not meet the objective.

The post-test was administered on the last day of the session. Perhaps the results would show a more significant increase if the post-test were administered at an earlier date. This writer recommends administering the post-test two days prior to the session's end.

The goal of objective two was to improve student writing ability. Evaluation of this objective was based upon comparison of pre-writing evaluation and post-writing evaluations. It was anticipated that students would improve their writing skills by at least twenty percent. While 100 percent of the student's increased their writing ability, only 32 percent increased their writing ability by 20 percent.

One impressive improvement was noted in the writing of a lower-level student whose first attempt at

expression was very low. On the post-writing evaluation, this student managed to improve by over 100 percent. Writing tasks during group work aided in this student's writing improvement. The group was most supportive of this member in all ways. During a lengthy oral presentation, another member of the group stood close by to assist in the event the student needed help.

Objective three's evaluation was based upon comparison of questionnaires, checklists, journals, and logs. The goal of this objective was to improve student attitudes toward writing. It was anticipated that 100 percent of the target group would show at least a thirty percent improvement in attitude. Eighty percent of the group met this objective. The remainder of the class showed some improvement.

There were some interesting results in areas not included in this practicum. Attitudes toward school were increased in 100 percent of the target group. Even though some students had excellent attitudes toward school at the beginning of the session, answers and comments on the final questionnaire, comments in journals, and teacher observation indicated an improved interest in school as well as writing.

Another positive factor noted was the support of group members for one another and also for other classmates. One student who had a discipline history and trouble relating to peers was encouraged by others in the class. This student was congratulated by others when mechanical problems with VCR equipment was repaired. The more praise that came from peers the better the attitude the student exhibited.

Students in the target group learned tolerance for others and to share the ideas of others. High level students learned to work with other ability levels. Social-interaction increased among the groups. Lower level students learned their ideas and talents were important to others and to the function of the group.

Vocabulary was not a part of this project, but as a sidelight, the results were interesting. All students increased their vocabulary scores as measured in a pre-test and post-test. From observation, students were more interested in group vocabulary work than when it was assigned individually.

Although the some objectives anticipated were not met, this practicum was successful. The knowledge, the enthusiasm, the interest, and the fun that was generated in this class for the students and for the instructor

were mentioned repeatedly in conversations, in journals, and in other writing. Whenever students increase their problem-solving skills, writing ability, and attitude toward school, success has been attained. This writer plans to continue using this project in the classroom with few modifications.

CHAPTER V

Recommendations

In continuation of this program during the upcoming school year, some modifications are needed. Although some improvement will be shown in most areas, realistically, 100 percent of class members should not be expected to demonstrate significant improvement in all areas. Another modification is the administering of the problem-solving post-test at an earlier date in the session.

Further recommendation is to guide the groups into interchanges of individual tasks so that each group member can function in each position. By practicing writing, leadership, and other activities each group member can strive to reach potential with the support of peers. This support for each individual group member is important to assist in confidence-building.

This project can be used at any grade level and with any discipline. In lower level grades, a problem-solving test would need to be at the ability level of the students. Most disciplines can use this project with modification to fit curriculum needs. The guidelines for this project will be made available to teachers who wish to utilize this plan in their

classroom. With the trend toward heterogeneously grouped classrooms, this project should be of value.

The workshops that were given at this school on cooperative learning (McGinn, 1990) were used in the development of this project. This writer in cooperation with the reading resource teacher will prepare a teacher packet and conduct a workshop using this project. With on-going cooperative learning workshops being offered, this project will fit-into the year's upcoming programs.

A report outlining the results of this project will be shared with the Language Arts Department. Information will disseminated to other schools within the district for their teacher's use. An article about the project is being written to submit to a professional journal.

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Appendix A

Entry Questionnaire

Appendix A

Entry Questionnaire

_____ _____

Student's Name Evaluator

Please fill-in the dot that is an indicator of behavior.

	Low			High
Levels of indication	1	2	3	4
Interest in reading	o	o	o	o
Time spent reading	o	o	o	o
Interest in writing	o	o	o	o
Time spent writing	o	o	o	o
Time spent on social activities	o	o	o	o
Time spent working a job	o	o	o	o
Interest in English class last school year	o	o	o	o
Decisions are made emotionally	o	o	o	o
Decisions are made logically	o	o	o	o

Please fill in the blanks.

Best traits are 1. _____

2. _____

3. _____

Unique information about the student _____

_____

_____

Appendix B

Checklist and Log

Appendix B

Daily Checklist and Log

Name_____ Group Name_____

Date_____

Events that occurred within the group

(positive and negative)

_____

_____

_____

_____

Place a check mark in the appropriate column

Yes	No	
____	____	All group members participated
____	____	Brainstorming was used
____	____	A recorder wrote the thoughts
____	____	Final decisions were reached by consensus
____	____	Sources outside the group were used
____	____	I was comfortable in the group

If you checked no to any of the above, please write (on the back of this paper) how improvements can be made. Please write any other comments or responses.

Appendix C

Sample Problem

Appendix C

Sample Problem

Arch Brewster has been out of work for two months due to an illness. His benefits ran out three weeks ago, and household bills are now past due including the mortgage. Mazie Brewster, Arch's wife, has a part time job, but her salary does not cover all the bills. Sarah, the Brewster's twelve year-old daughter, has been helping with household duties.

Seventeen year-old Jack Brewster wants to help his mom and dad by getting a job at a parcel delivery company. The job pays well and will provide needed family income. To get the job, Jack must go for an interview. Interviews are to be held at 8 a.m. Tuesday. Jack must be prompt and make a good impression. He feels confident that he can get the job.

Tuesday is a school day, and Jack's English teacher has scheduled a test for that day. If Jack misses class, the teacher has told him he will receive a zero. The teacher will not permit him to make up the test, and since school rules state that a physician's excuse is needed to make up a test, Jack is certain he will be given a zero for the test. This test grade is very

important because it will determine Jack's final average. Financial aid for college depends on Jack's getting an A in English. The zero will lower his average to a C.

To effectively write your solution to this problem, you must think and write in a logical, sequential manner.

1. What is Jack's problem ?

2. Brainstorm several ways that he might solve his problem.

3. Discuss these methods; select the best method of solving the problem, and discuss the steps that Jack must take to solve the problem.

4. Write a rough draft of your advice to Jack. Revise and edit your writing.

5. Write a final draft of your solution.

Appendix D

Exit Questionnaire

Appendix D

Exit Questionnaire

_____ _____

Student's Name Evaluator

Please, fill-in the dot that is an indicator of behavior during the summer.

	Low			High
Levels of indication	1	2	3	4
Interest in school	o	o	o	o
Time spent reading	o	o	o	o
Interest in writing	o	o	o	o
Attitude toward school	o	o	o	o
Time spent writing	o	o	o	o
Attitude toward writing activities	o	o	o	o
Time spent working a job	o	o	o	o
Interest in English class this summer	o	o	o	o
Decisions are made emotionally	o	o	o	o
Decisions are made logically	o	o	o	o

Fill in the blanks, please.

Best things about summer school

1. _____
2. _____
3. _____

Additional comments _____

_____

Appendix E

Letter to Parents

Appendix E

Letter to Parents

Dear Parents:

This has been one of the finest summer classes that I have had the pleasure of teaching. These young men and young women have been attentive, cooperative, and eager to learn. Lake Howell High School is fortunate to have them among the student body.

I can only hope that this experience has been as rewarding for them as it has been for me. They have worked cooperatively on many projects including vocabulary development, research, creative writing, and problem-solving.

Computers and library facilities were utilized at the school, and after-school trips were made to area libraries by group members. Oral presentations were shared. Writing was shared in class and displayed in the school media center.

Your pride and confidence in your child is evident in the attitude of these young men and young women. Thank you for the opportunity to work with your child and share your pride.

Sincerely,

Nancy Johnson

Appendix F

Comparison of Problem-Solving

Pre-Test and Post-Test

Appendix F

Comparison of Results/Problem-Solving

Pre-Test and Post-Test

Student	Pre-Test Score	Post-Test Score	Percentage of Increase or Decrease
1	35	38	+ 9
2	84	92	+ 10
3	48	69	+ 44
4	76	50	- 21
5	76	92	+ 21
6	41	52	+ 27
7	55	63	+ 15
8	74	83	+ 12
9	58	79	+ 36
10	42	55	+ 31
11	71	76	+ 07
12	76	98	+ 29
13*	79	79	00
14	68	60	- 12
15	71	87	+ 23
16	41	95	+132
17	68	79	+ 16
18	68	66	- 03
19	79	87	+ 15
20	68	90	+ 32
21	47	53	+ 13
22	63	82	+ 30
23	89	84	- 06
24	82	95	+ 16
25*	68	68	00
26	64	88	+ 22
27	64	46	- 28
28	71	67	+ 06

* Scores on the pre-test and the post-test for this student were the same.